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UNITED STATES GOVERNMENT

WATER AND FISH RESOURCES of the Pacific Northwest Electric Power and Conservation Planning Council

JOHN D. COLEMAN, Chairman

Committee on Energy and Conservation
United States House of Representatives
and the
Committee on Interior and Natural Resources
United States House of Representatives

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OCTOBER 1, 1987, THROUGH SEPTEMBER 30, 1988

Submitted to the
Committee on Energy and Natural Resources
United States Senate

Committee on Energy and Commerce
United States House of Representatives

and the
Committee on Interior and Insular Affairs
United States House of Representatives

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This annual report has been developed pursuant to Section 4(h)(12)(A) of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501). While the Act requires only a report of the Council's fish and wildlife activities, the Council has elected to include its power planning, congressional, public involvement, legal and administrative activities as well.

Northwest Power Planning Council

To the Members of Congress and the People of the Pacific Northwest:

October 1, 1988

This, our Eighth Annual Report, details a watershed year for the Northwest Power Planning Council, during which we made a sweeping environmental proposal that will help shape the region's economy well into the 21st Century: a policy to direct future hydroelectric development away from more than 44,000 miles of rivers and streams in Idaho, Montana, Oregon and Washington.

This "protected areas" policy is designed to keep new hydroelectric dams out of critical fish and wildlife habitat, protect the investments being made by the Bonneville Power Administration and the region's utilities in programs to rebuild fish and wildlife, and focus hydropower development in areas that are less environmentally sensitive.

This bold action is the outgrowth of the dual mandate Congress gave the Council in 1980 when it passed the Pacific Northwest Electric Power Planning and Conservation Act. The law calls on the Council to rebuild fish and wildlife resources in the Columbia River Basin and map out alternatives for the region's energy future that provide adequate electricity at the lowest cost.

The Council's role isn't easy. We often have to strike a delicate balance between disparate economic forces vital to the region. On the one hand, the Council must pay close attention to interests representing power and agriculture, both of which depend on access to large volumes of water. On the other, we must accommodate wildlife and fishing interests, whose water needs run in a different direction.

Cooperation among private, state and federal interests is the key to maintaining that balance. This annual report details the steps the Council took last year to underscore and strengthen that cooperative spirit so that generations to come will continue to benefit from the region's unique resources.

Sincerely,

Morris Brusett
Chairman

INTRODUCTION

Seven years after its formation, the Northwest Power Planning Council¹ appears to be well on its way to becoming a Northwest institution. The regional debate over the role of the Council has receded, to be replaced — appropriately — with debate focused on the issues before the Council.

The Council was created in 1981 when the states of Idaho, Montana, Oregon and Washington entered into a compact to address certain specific resources all four states share. The bond that links these states is the 1,200-mile-long Columbia River and its tributaries, which flow through the Northwest like life-giving arteries. These rivers are the nation's most prolific producers of hydroelectric power, providing relatively

inexpensive energy that is one of the cornerstones of the Northwest economy. The rivers and their banks are also home to important biological resources — salmon and steelhead and other fish species, as well as a wide variety of wildlife.

Unfortunately, the development of electricity and the survival of the creatures of the river basin often conflict. Each affects the other. It is the Council's role to strike a balance between them.

The states' actions to form a compact had been authorized by Congress in the Northwest Power Act² of 1980. The Council was designed to be a publicly accountable body to give Northwesterners a stronger voice on the future of these key regional resources. Specifically, Congress gave the Council three charges:

1. Develop a 20-year electrical power plan to guarantee adequate and reliable energy at the lowest cost to the Pacific Northwest.
2. Develop a program to protect and rebuild fish and wildlife populations in the Columbia River Basin that have been affected by hydroelectric development.
3. Conduct an extensive program to involve the public in the Council's deliberations over power planning and fish and wildlife protection.

In less than a decade, the Council and the region have made some indelible marks. Wholesale power rates in the Northwest are stabilizing, after jumping 500 percent in the first five years of the decade because of the aggressive program to build what turned out to be largely unnecessary thermal generating plants in the 1970s. The Northwest's storied salmon and steelhead runs, which had dropped to approximately 15 percent of their predevelopment levels, are showing signs of a comeback, although much remains to be accomplished.

In 1988, the Council adopted one of the nation's most sweeping environmental protection measures — the designation of protected areas to focus future hydroelectric development away from some 44,000 miles of stream reaches containing critical fish and wildlife habitat. These activities have received national attention. Articles about the Council's work have appeared in the *New York Times*, the *Washington Post*, the *Christian Science Monitor*, the *Los Angeles Times* and a variety of other publications. In June, NBC television presented a five-minute segment on the Council's "protected areas" proposal on its *Today* show.

On the power planning side, the Council has been conducting a thorough update of the technical analysis in its regional power plan. The Council's pioneering efforts in power system planning to acquire necessary resources at the lowest cost to society are gaining national interest. This "least-cost planning" has become one of the hottest topics in the utility industry, and the Council's functioning Northwest Power Plan provides the nation's first and most definitive test of the process.

The Council has been invited to appear before committees of the U.S. Congress, state legislatures, public utility commissions and utility organizations to discuss its least-cost planning strategies.

¹The complete title of the Northwest Power Act is the Pacific Northwest Electric Power Planning and Conservation Act (Pub. L. 96-501). The Council's formal name is the Pacific Northwest Electric Power and Conservation Planning Council.



A key element of the Council's plan is its emphasis on cost-effective conservation as the first resource to acquire when power is needed. The Council's model conservation standards apply to electrically heated residential buildings and all commercial and institutional buildings. Thanks to these standards, more and more buildings in the Northwest are being made highly energy-efficient.

If the success stories have been dramatic, so too are the challenges that remain. Regional cooperation — that is, coordinated development of electricity resources — remains an elusive goal. Without such cooperation, the Northwest could end up spending an average of \$2.1 billion more than necessary for energy resources over the next 20 years. The Bonneville Power Administration, a primary implementer of the Council's power plan and fish and wildlife program, is faced with uncertain future responsibilities to meet changing Northwest energy needs.

Congressionally approved funds for construction of fish bypass facilities at federal dams were withheld by the U.S. Office of Management and Budget, thus pushing back a schedule for completion that had been reached in 1987 through regional consensus. The Council considers mechanical bypass systems vital to improving survival chances for juvenile salmon and steelhead migrating past the dams. Such systems could reduce by half fish kills at dams.

These challenges, although severe, should not obscure the fact that progress has been substantial. The Northwest is addressing its regional problems, and it has a vehicle to do so. Power interests may argue that too much water is being diverted from energy production to improve flows or passage for fish. State and federal fish and wildlife agencies and basin Indian tribes will argue with equal vehemence that not enough water is being spilled or provided for flows. The point that cannot be lost is that now water is being shared between power and fish interests. The argument today is over how, not whether to share this resource.

The Council members, all of whom are appointed by the governors of the Northwest states, believe strongly that their most important role is to provide a forum to bring disparate interests together and to act as a catalyst to build regional consensus and cooperation on fish and power issues.

SIX YEARS OF FISH AND WILDLIFE PROGRESS

In the six years since the Northwest Power Planning Council adopted the first Columbia River Basin Fish and Wildlife Program, much has been accomplished by the many organizations involved in carrying out the program and other recovery efforts.

The accomplishment most frequently applauded is the increased and continually growing cooperation among the program's original planners and newcomers to the process. Observers who were not privy to the years of struggle among competing interests in the basin may not fully appreciate the careful negotiations that led to this new spirit of shared goals.

But six years is barely the duration of one salmon life cycle in the basin. Some of the first emerging fry of 1982 pushed back up the Columbia last year — if they have survived their long travels. The river basin they found was more hospitable than the one they left, and their young will experience even more nurturing in the "new and improved" Columbia River Basin.

What follows is a list of some of the major accomplishments in the basin's fish and wildlife community over the past six years. They represent the efforts of not only the Northwest Power Planning Council, but the region's state and federal fish and wildlife agencies, Indian tribes, the Bonneville Power Administration, the U.S. Army Corps of Engineers, the Bureau of Reclamation, the Federal Energy Regulatory Commission, public and private utilities, and other interested groups and citizens.

Together, these entities have:

- Developed a "water budget" (reserved block of water) for release during the spring to create higher flows to aid downstream migration of young salmon and steelhead.
- Pressed for the completion or improvement of fish bypass systems at 13 mainstem dams to help fish pass safely.
- Designated for protection from future hydroelectric development roughly 44,000 miles of river habitat used by salmon and steelhead, resident fish and other animals.

— Provided for use of spill (passing water through a spillway rather than a dam's turbines) to reduce juvenile fish mortality at dams as an interim measure until mechanical bypass systems can be put in operation at the remaining dams.

— Completed construction of release, collection and holding facilities in the Umatilla subbasin. Started development of other new salmon and steelhead production facilities in the Deschutes, Nez Perce, northeastern Oregon, Umatilla and Yakima/Klickitat areas.



- Completed some 30 sets of projects to improve tributary passage and habitat for salmon and steelhead in the Clearwater, Deschutes, Grand Ronde, John Day, Salmon, Umatilla, Wenatchee, Willamette and Yakima subbasins.
- Initiated more than 80 other new projects to improve natural and wild production of salmon and steelhead. These include efforts in the Deschutes, Grand Ronde, Hood, John Day, Salmon, Umatilla, Wenatchee, Willamette and Yakima subbasins.
- Developed a basinwide computerized planning model to aid in understanding the life cycle of salmon and steelhead and the relationships of production, mainstem passage mortality and harvest regulation.
- Participated actively in discussions to develop a long-term spill agreement at the federal mainstem dams.
- Began projects to substitute increased resident fish production in areas previously accessible, but now blocked, to salmon and steelhead migration.
- Created the first basinwide data base to collect and organize existing information on the production of salmon and steelhead.
- Compiled the first comprehensive study on the extent and causes of the decline of salmon and steelhead in the basin. This study led to an estimate of how many salmon and steelhead were lost in the basin due to hydropower.
- Designed and initiated a system planning process to set a course toward an interim goal of doubling salmon and steelhead runs in the basin. The system plan incorporates analysis from 31 individual subbasins.
- Promoted consideration by the Federal Energy Regulatory Commission (FERC) of the cumulative impacts on fish and wildlife of a number of hydropower projects within a subbasin.
- Focused salmon and steelhead research on six areas: water budget effectiveness and reservoir mortality, disease, hatchery production, supplementation, bypass, and transportation effectiveness.
- Initiated a system monitoring effort to evaluate the effectiveness of the salmon and steelhead program.
- Produced the first major report that identifies salmon and steelhead stocks now present in the basin.
- Supported the successful ratification of the United States/Canada Pacific Salmon Treaty designed to increase the number of fish returning to the basin.
- Completed construction of the Cabinet Gorge Hatchery to produce about 20 million kokanee in Idaho. Started construction of a hatchery to produce brook, rainbow and cutthroat trout on the Colville Indian Reservation in northeastern Washington.
- Undertook the basin's first major efforts to rehabilitate wildlife populations and habitat adversely affected by Hungry Horse and Libby dams in Montana.
- Initiated major projects to protect and rebuild resident fish populations in Montana.

FISH AND WILDLIFE ACCOMPLISHMENTS

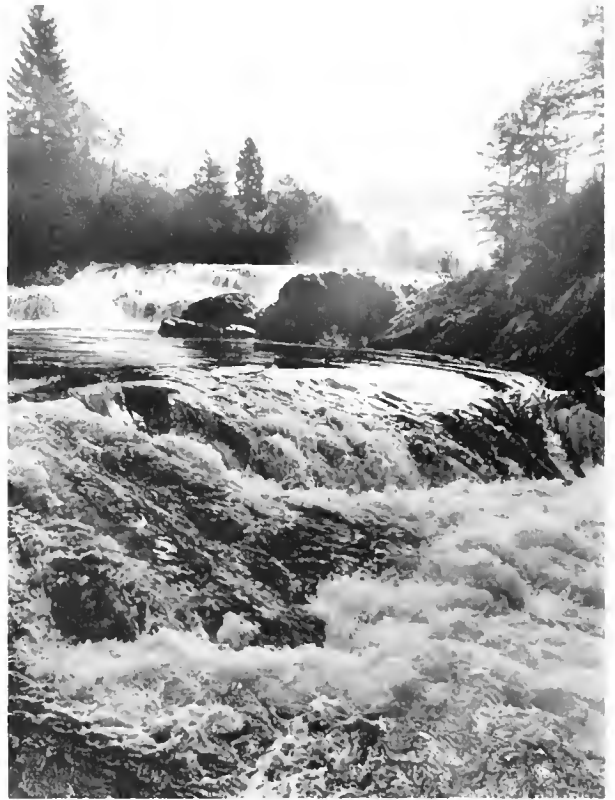
During the past century, the watershed of the Columbia River has been transformed from one of the world's most productive wildernesses into one of its most developed hydropower producers. The transformation yielded much — the nation's least costly electricity, irrigation for arid land and more — but it also exacted a price, one still being paid by citizens and visitors to the Northwest. The annual runs of 10 million to 16 million Columbia Basin salmon and steelhead that plied the waters of the Pacific Coast in the 19th century have been reduced to only about 2.5 million. Other animals that relied on the network of streams have also suffered.

Exactly what this huge loss has cost the region, in terms of lost jobs; lost tourism revenues; lost income from anglers investing in gear, boats, etc., is difficult to calculate. Even more difficult is the task of measuring those aspects of Northwest culture that were forfeited to development.

A careful tallying of the numbers of fish and the likely causes of the losses, carried out by the Council in 1985 and 1986, revealed that up to 75 percent of the devastation of the runs came during the last half century as a result of the construction and operation of the hydropower dams. The dams are physical barriers to migrating salmon and steelhead that must travel thousands of miles from their spawning gravel in the upper reaches of the basin to the ocean, where they mature before returning to the basin to reproduce. Some of these fish must pass as many as nine large mainstem Columbia and Snake river dams and several smaller ones on their migratory route.

The journey is particularly hazardous for juvenile salmon and steelhead heading out to sea. Sluggish water in reservoirs hin-

ders their progress, exposes them to predators, disease and inhospitable water temperatures, and kills some that complete their adaptation from freshwater to saltwater environments before they are able to reach saltwater. Others are drawn into the turbines where extreme pressure changes and the blades themselves kill as many as 30 percent at each dam.



Furthermore, fully a third of the salmon and steelhead spawning habitat that existed before development has either been cut off by dams that lack fish ladders (Grand Coulee and Chief Joseph dams on the Columbia and the Hells Canyon Complex on the Snake) or flooded beneath reservoirs. Part of the impetus behind Congress' passing the Northwest Power Act was the goal of salvaging and rebuilding fish and wildlife populations in the Columbia River Basin through a basinwide, coordinated program of activities.

The Act does not represent the yearnings of Congress for some nostalgic, irrecoverable past. It is a solid piece of legislation, possibly the strongest law written about the management of this Northwest natural resource, and it calls for deliberate and collaborative action on the part of fish and wildlife agencies, Indian tribes, utilities, the Bonneville Power Administration, operators of federal and non-federal dams and others.

The region is now in its eighth year of implementing the Act. The Columbia River Basin Fish and Wildlife Program, approved by the Council in 1982, is nearly six years old. Major revisions of the program, incorporating new information and technologies, were completed in 1984 and 1987. In response to the Act, Bonneville, the U.S. Army Corps of Engineers, the Bureau of Reclamation and others are now spending about \$100 million each year on measures in the fish and wildlife program. Many fish and wildlife populations already have increased, and the level of cooperation among participating organizations has grown (with some notable exceptions, discussed below).

While the program addresses all fish and wildlife affected by the hydropower system, at the top of the agenda is the protection and enhancement of salmon and steelhead. In this regard, the program has a unifying goal, to double salmon and steelhead runs in the basin. In the past year, the Council has worked toward that goal in three major ways:

1. To prevent future hydropower-related harm to fish and wildlife in the Northwest, the Council adopted a proposal to protect roughly 44,000 miles of streams from future hydroelectric development because of their importance as habitat for salmon and steelhead, non-seagoing fish and other animals. Public hearings to discuss the proposal were held in each Northwest state.
2. To protect migrating salmon and steelhead in the Columbia and Snake rivers, particularly juveniles on their way to the ocean, the Council has called for structural and operational changes at dams managed by the Corps of Engineers, the Bureau of Reclamation, regional utilities and others. These changes include, 1) the construction and installation of bypass screens and channels to collect fish approaching turbines and move them safely past the dams; 2) the release of water set aside in the dams (the water budget) to flush young fish to the sea during the critical spring migration; 3) the routing of water at mainstem dams to carry fish through spill gates as an interim means of helping young migrants avoid lethal passage through the dam's turbines; and 4) the transportation of salmon and steelhead in barges and trucks to move them past the dams.

3. To determine the best places and methods for producing new salmon and steelhead in the basin, subbasin plans are being developed for 31 separate areas in the Columbia River system. These subbasin plans will be integrated into a consistent system-wide plan that will consider factors affecting production but occurring outside the individual subbasin, such as ocean harvest and mainstem passage. The Council is reviewing information that will help identify production opportunities and constraints in the priority area above Bonneville Dam, where damage was greatest and mitigation has not progressed very rapidly. Drafts of the first of these subbasin plans are scheduled to come before the Council this fall.

Each of the above areas of focus is further discussed, along with other program activities, below.

Protected Stream Development

In August, the Council voted to amend the Columbia River Basin Fish and Wildlife Program and the Northwest Power Plan to designate roughly 44,000 miles of Northwest streams as "protected" from future hydroelectric development. These streams were identified as critical habitat for fish or wildlife after a four-year study carried out by the Council, Bonneville, the Corps, the four Northwest state fish and wildlife agencies, Indian tribes and others.

The history of the protected areas proposal goes back to the first fish and wildlife program recommendations in 1981. At that time, Indian tribes in the basin and fish and wildlife agencies asked the Council to devise measures to protect fish and wildlife from new hydroelectric development. In 1982, the Council agreed with the intent of the tribes and agencies, but decided that not enough information was available to make designations of specific river reaches.

From 1984 through 1986, state and federal fish and wildlife agencies, Indian tribes and the Council reviewed virtually every river reach for which data exists both in the Columbia River Basin and outside the basin. Using this information, the Council then developed a salmon and steelhead data base to catalog the various values, particularly the presence or absence of salmon and steelhead in these reaches. Other data bases specific to resident (non-seagoing) fish, wildlife and hydropower potential were also compiled. Information was supplied by the agencies and tribes, and common criteria were

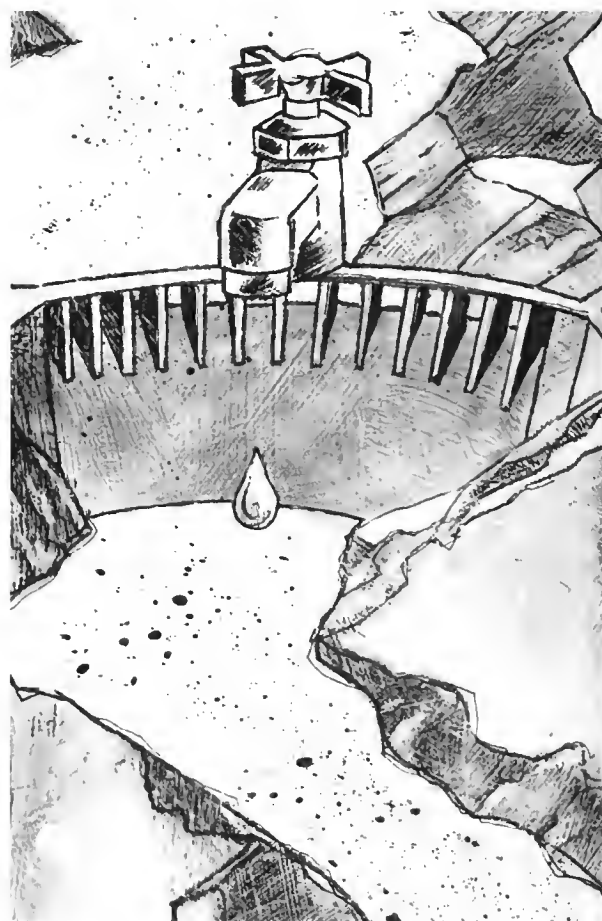
applied to the data to identify critical fish and wildlife habitat for protection.

From this information, the states made recommendations on the list of stream reaches to be protected. In areas where salmon and steelhead, resident fish and wildlife are present, the Council agreed that any development may involve unacceptable risks of irreparable harm to these species or their habitat.

The Council's decision amends the fish and wildlife program, which influences federal agencies that operate, develop and regulate the hydropower system in the Columbia River Basin. While the Council cannot prohibit development, the Northwest Power Act requires the Federal Energy Regulatory Commission (FERC), which licenses non-federal projects, to take the Council's program into account throughout its decision-making to the fullest extent practicable.

This decision also amends the Northwest Power Plan. The plan guides Bonneville's resource acquisitions throughout the Northwest, not just within the basin. The Council urges Bonneville to refrain from acquiring hydropower from projects in protected areas.

The Council found that Bonneville's Long-Term Intertie Access Policy, which denies access to its intertie for new resources located in protected areas within the Columbia River Basin, is consistent with the Council's fish and wildlife program. The Council urged Bonneville to extend this provision to protected areas outside the Columbia River Basin. The intertie is the transmission system over which power is moved to California.



The designation of protected areas outside the basin constitutes recommendations that FERC consider in its licensing decisions as required by the Electric Consumers Protection Act of 1986. FERC has recognized that the Council's fish and wildlife program and power plan are "comprehensive plans" as called for in the Consumers Protection Act.

In its decision, the Council also clarified the relationship between the protected areas amendment and the National Forest Management and Federal Land Policy Management acts. The Council's action is not intended to address any development other than hydropower.

The amendments apply only to new hydropower, not to existing dams. Existing water rights, water appropriations or jurisdiction over water would not be affected by the Council's decision.

Clearly, the dams that span the Columbia and Snake rivers and many of the basin's tributaries benefit the region, but cause great harm to salmon and steelhead. Any expenditures to correct this damage — replenishing usable habitat with hatchery-bred fish, opening new habitat for spawning, or better managing harvests in ocean fisheries — would be wasted if large numbers of fish still perish at the dams. With program-mandated bypass improvements in place at some mainstem dams, juvenile survival has improved.

Last year, the Council asked Congress to allocate additional funding to hasten Corps of Engineers' construction and improvement of screens and bypass facilities at The Dalles, Lower Monumental, Ice Harbor, Lower Granite and Little Goose dams. A consensus on the construction schedule had been reached among the Corps, fish agencies, basin Indian tribes, utilities and others.

Congress responded with \$8.7 million in bypass improvements funding for 1988. The Corps and the Office of Management and Budget agreed to spend \$3 million for two new barges to transport young fish around the dams, but reassigned up to \$1 million to undertake an additional, and in the Council's opinion, unnecessary study of the bypass systems. No funds were assigned to complete the bypass improvements. Furthermore, the Corps requested no additional funds to continue bypass installations through 1989, even though the Corps' own study found that systemwide bypass improvements have a benefit-to-cost advantage of 3-to-1. This single issue has provoked more public and press outcry than any fishery issue in recent years.

Congress has responded by appropriating an additional \$9.6 million for bypass in the Fiscal Year 1989 budget and by specifying in new legislation requirements that both the Fiscal Year 1988 and 1989 appropriations be spent for the purposes and in the ways Congress has directed.

Despite the fact that this spring was one of the driest on record in the Northwest — the second year of major drought — salmon and steelhead have not fared as poorly as biologists feared they might. On the Snake River, a combination of early runoff, water budget flows and later precipitation provided a relatively good outmigration of young fish. Release of the water budget nearly doubled low natural streamflows, washing large numbers of smolts (young salmon and steelhead undergoing changes to help them move from freshwater to saltwater environments) toward the Columbia. On the Columbia River, releases of water from the mid-Columbia water budget combined with the Snake River flows to keep water laden with fish moving quickly through mainstem reservoirs from May 9 through June 10. Use of the full mid-Columbia water budget provided at least partial protection for 90 percent of the spring migrants.

Until mainstem Columbia and Snake river projects are properly screened to protect fish runs, the program calls for spills of water to carry fish over the dams instead of letting them pass through the turbines. Enough spill must be provided to protect at least 90 percent of the young fish at each project through the middle 80 percent of the runs. Because spilled water bypasses the dam's turbines, no power can be generated while spill is in progress. Nonetheless, the Council's spill program calls for protection for fish regardless of the impact on the power system's ability to produce firm, or contract-bound, power.

In the 1987 amendments to the fish and wildlife program, the Council addressed a long-standing dispute over the amount and timing of spill. On the one hand, fisheries experts argued that increasing spill substantially improves fish survival. Dam operators, on the other hand, maintained that the improvements are negligible when compared to the cost of spill.

The Council called for development of a spill program that guarantees the minimum 90-percent survival, but also allows for more spill and higher smolt survival at times when more water is available. Each year, fisheries managers, the Corps, Bonneville and others are expected to produce a cooperative plan for that season's spill.

This year's spill program is still in dispute. Protection at all dams for both spring and summer migrants was not provided by the Corps of Engineers. Council staff proposed a compromise plan to protect summer migrants, but no agreement was reached.

However, in 1987, Bonneville, the Corps, the fish agencies and the tribes decided to develop a 10-year spill agreement. Final negotiations on this precedent-setting plan were going on as this report went to press. The agreement will call for specified levels of spill for defined periods of time at Ice Harbor, Lower Monumental, The Dalles and John Day

dams. It represents a new level of cooperative problem solving in the basin.

Collecting and barging certain stocks of fish, notably fall chinook and steelhead trout, is an effective means of moving them past the dams. But some stocks, such as spring chinook, are less successfully transported than others. Research is continuing on this issue. Until research findings are reviewed, the fisheries agencies and tribes decide whether fish should be transported or left to migrate in the river.

Because of low flows in 1988, the Corps continued to barge young fish down the Columbia, collecting and loading them at Lower Granite, Little Goose and McNary dams, and transporting them to below Bonneville Dam. It is expected that over 20 million smolts will be collected and transported in 1988.

Although the Council has set a goal of doubling Columbia Basin salmon and steelhead runs, there is a general understanding that the current measures in the program will not achieve the goal. To determine how many additional fish can be produced, in which streams and by what means, the Council called for subbasin plans in 31 major tributaries or segments of the Columbia and Snake rivers.

These plans are being prepared by the basin's fish and wildlife agencies and Indian tribes, under the coordination of their umbrella group, the Columbia Basin Fish and Wildlife Authority. Advisory committees and numerous public meetings ensure public involvement throughout the planning process. Two dozen different entities are involved, and the project is expected to cost nearly \$5 million overall (this includes Council funding of \$2.9 million and in-kind contributions from the agencies and tribes equal to \$1.7 million).

Once compiled, these subbasin plans will be integrated into a single "system plan," which will balance production, mainstem passage and harvest measures. The system plan will include the 31 subbasin plans, each with an objective for production of various salmon and steelhead stocks and a list of actions that could be taken to reach each production objective. The system plan will also contain an estimate of the length of time it will take to double production, a description of possible hatchery sites for increasing production and a list of key questions about salmon and steelhead that could be addressed through implementation of the system plan.

The area above Bonneville Dam is considered first priority for recovering fish runs, so subbasins in this area are being studied first. All available information needed to identify salmon and steelhead production opportunities above Bonneville Dam has been collected and is being analyzed and refined by the monitoring and evaluation group. (The monitoring and evaluation group was created by the Council to develop an integrated plan for monitoring progress in the program and evaluating and comparing results of various activities. The group is made up of fisheries experts from the fish and wildlife agencies, Indian tribes, Bonneville and the region's utilities.)



Drafts of full subbasin plans for the area above Bonneville Dam, incorporating production objectives and background information, are expected to be submitted to the Council in late October. The fisheries agencies and tribes are developing these plans with the assistance of public and technical advisory committees. The system planning process is roughly three months behind schedule, a delay caused mainly by difficulties in hiring staff to carry on the project. Planning is just beginning for those subbasins below Bonneville Dam.

Work to improve salmon and steelhead runs in the Yakima Basin has been a feature of the fish and wildlife program since its inception. The Yakima contains much usable habitat above a series of irrigation diversion and hydroelectric dams. It is considered excellent "offsite enhancement" habitat to make up for parts of the Columbia Basin where runs cannot be recovered due to the location of dams and reservoirs.

Work in the Yakima includes more than 20 fish passage projects (an additional four were completed in 1988, leaving only four to complete) to help salmon and steelhead migrate past the diversion dams; study of the feasibility of creating additional water storage to extend the season when water is available; and a proposed package of water conservation projects to make the most efficient use of existing water. This work has been a collaboration among the Bureau of Reclamation, Bonneville, the Yakima Indian Nation and Yakima Basin irrigators.

Key to the success of these efforts is a proposal to use state-of-the-art hatcheries to determine if fish produced in these hatcheries can be planted in the natural environment to rebuild naturally reproducing runs. In October 1987, the Council approved a master plan for Yakima/Klickitat salmon and steelhead outplanting facilities. (An outplanting facility is a hatchery that produces fish to be released into streams for rearing and maturing away from the hatchery site. As a result, the fish return to their release site for natural spawning.) The facilities will produce salmon and steelhead to supplement natural fish runs and test the effectiveness and potential of various modern hatchery operations.

The master plan for the facilities was developed by the Yakima Indian Nation and three consulting firms under contract with the Council. The tribe and contractors consulted with fisheries agencies, project owners and operators, and irrigation districts to develop the proposed plan.

The master plan calls for central and satellite facilities in both the Klickitat and Yakima river basins. Production in the Yakima Basin will focus on spring chinook, fall chinook, steelhead and coho. The Klickitat sites will focus on spring chinook and steelhead. When completed, these facilities should produce an estimated 76,000 to 175,000 adult fish.

Bonneville is funding preliminary engineering and additional planning to further refine some parts of the master plan. The Council will review the preliminary designs along with the final master plan before construction begins.

Measures aimed at increasing returns of salmon and steelhead in the Umatilla River Basin in northeastern Oregon, like those for the Yakima Basin, date to the Council's first program. When the 1987 program amendments were adopted, they included measures that reflected the comprehensive fisheries rehabilitation plan for the Umatilla Basin developed in 1985 by the Oregon Department of Fish and Wildlife, the Umatilla Tribe, the Bureau of Reclamation and other cooperating entities.

Work in this basin has been viewed, until recently, as an example of almost ideal cooperation among otherwise competing interests. Two years ago, participants in the project released their first juvenile

spring chinook into upper basin waters, hoping to reseed reaches where spring chinook had not returned in more than 60 years. This year, the first of those released chinook came back up the Umatilla to spawn.

However, a dispute surfaced in April over a multiyear Columbia Basin Fish and Wildlife Authority proposal to improve river flows in the lower three miles of the Umatilla River, beginning this spring. Additional water is considered necessary because most of the existing Umatilla River flows are allocated for farmland irrigation. Irrigation lowers water levels and regularly leaves insufficient flows for salmon and steelhead migration up and down the river. The provision of flows is considered an interim measure until the Bureau of Reclamation's proposed Umatilla Basin Project is authorized by Congress and completed.

Both the Bonneville Power Administration and the Pacific Northwest Utilities Conference Committee, which represents Bonneville's customer groups, objected to the interim provision of power to pump the additional water, arguing that such flows were not the intent of the fish and wildlife program measures regarding the Umatilla. Bonneville had first expressed its reluctance to provide the flows during the Council's 1987 program amendment proceedings. The agency challenged the biological benefits of additional flows and raised concerns about the costs, arguing that other parties should share the expense of providing flows because they will likely benefit from the additional water.



Nonetheless, Bonneville agreed to pay up to \$30,000 for pumping the extra water this spring if the Council would review and clarify its program measures regarding Umatilla flows. In July, the Council entered rulemaking to consider amending the Umatilla Basin section of the fish and wildlife program.



Habitat Improvements: While hatcheries and other artificial fish production facilities can provide large numbers of salmon and steelhead, the Council also wants to expand natural production in tributaries to the Columbia and Snake rivers. But, in some cases, habitat has degraded, or passage to available habitat is blocked by culverts, downed trees and other obstacles. To make the stream reaches productive for spawning, incubation and rearing, livestock grazing must be controlled, vegetation replanted, and pools and riffles created. Passage can be improved by clearing or constructing channels.

Besides the major passage work already discussed in the Yakima River Basin, habitat improvement work is ongoing in the Umatilla, Willamette, Deschutes, John Day and Grande Ronde river basins in Oregon; the Clearwater and Salmon river basins in Idaho; and the Wenatchee River Basin in Washington. Projects currently under way are all to be completed by 1991.

Salmon and Steelhead Research

In the 1987 Fish and Wildlife Program, the Council noted that, because past research on salmon and steelhead had been fragmented, important gaps remained in the region's understanding of the

resource. As a remedy, the Council adopted research priorities and a new research planning process that relies on technical work groups made up of experts from the fish and wildlife agencies, Indian tribes, the Corps of Engineers, Bonneville and other utilities to develop research strategies they could all agree on. The areas of emphasis are salmon and steelhead diseases, hatchery effectiveness, supplementation, reservoir mortality/water budget effectiveness, bypass and fish transportation.

The disease and hatchery effectiveness work plans were produced with little difficulty or disagreement. The Council recommended that Bonneville provide about \$2 million to carry out the two approved work plans.

While there has been protracted disagreement on the reservoir mortality/water budget effectiveness research work plan, the Council was able to facilitate some agreements among concerned parties. Consequently, the Council requested Bonneville funding of \$1.2 million in Fiscal Year 1988 to cover research in this important area, while a basinwide consensus is pursued.

The supplementation work plan was presented to the Council at its June meeting, and no decision is expected regarding its funding until after this report goes to press. (Supplementation is the process of releasing hatchery-bred salmon and steelhead eggs, juveniles and adults into streams in the hope that the fish will return to the stream. The technique reseeds barren or underused habitat, provides harvest opportunities in desired areas and rebuilds natural runs.)

The Council has also been concerned that the process for collecting and sharing research findings has been lacking. Council staff surveyed Northwest research projects, including Canadian and Alaskan, to determine if duplicative research is being undertaken and to explore whether coordination could occur among all salmon and steelhead research entities. Bonneville, in collaboration with the agencies and tribes, is also developing procedures for integrating research proposals, reviewing findings and determining which proposals should be funded.

The Council is preparing an issue paper to address problems of research focus, integration and coordination. The paper will be released this fall.

In addition, the Council's monitoring and evaluation group has been meeting to create a process for measuring progress toward the goal of doubling the runs. This group also has taken on the tasks of providing technical assistance in the system planning process and developing guidelines for salmon and steelhead experimentation and assessing genetic risks from various experiments. The research issue paper noted above will also cover these monitoring and evaluation activities.

The amended fish and wildlife program called for annual and five-year reviews of the program in a round-table forum of senior policy-makers. The first of these round-table discussions was held in July. The first day of the round table focused on program achievements and possible problems. On the second day, experts from the Western fisheries community joined the discussion to explore critical issues not fully resolved to date.

Key themes at the round table included:

1. Cooperative ways need to be found to continue the successes of the first five years.
2. Safe passage must be provided for juvenile salmon and steelhead passing Columbia and Snake river dams.
3. Research on salmon and steelhead must be coordinated and information systems shared.
4. Fish production should balance hatchery breeding with protection for wild fish.
5. The management of salmon and steelhead harvests should be continually improved.
6. Water supply and water conservation should both be addressed.
7. Estimates of program benefits should be refined to include recreational, commercial, tribal and economic development values of salmon and steelhead.

In the 1987 program, the Council approved a policy to substitute resident or non-seagoing fish, such as brown or rainbow trout, for salmon and steelhead in areas where passage for these migrants is permanently blocked by hydroelectric projects. The Council also designated priority areas for these substitutions — above Chief Joseph Dam on the Columbia River and the Hells Canyon Complex on the Snake.

Groundbreaking ceremonies for the first of these resident fish substitution projects, the Colville Hatchery, were held June 24, 1988. About 50,000 pounds of brook, rainbow and cutthroat trout are expected annually from the hatchery, which is scheduled to be completed in March 1989.

Studies and stream surveys are under way on the Kalispell Indian Reservation to determine fishery improvement possibilities in the Pend Oreille River. Two kokanee hatcheries for Lake Roosevelt (Grand Coulee Dam's reservoir) are being designed. The prospect for a sturgeon hatchery for the Kootenai River in Idaho is also being studied.

Projects proposed for resident fish substitutions above the Hells Canyon Complex in Idaho require consultation and negotiation of funding sources before they can be implemented. These discussions have not been held. One exception is on the Duck Valley Indian Reservation, where Bonneville has funded the seeding of resident trout in reservation lakes for 1988. No ongoing funding for this activity is certain at this time.

While sturgeon are technically anadromous, or ocean-migrating fish, those upriver from Bonneville Dam have become primarily resident fish. Studies called for in the Council's program, funded by Bonneville and carried out by the Oregon Department of Fish and Wildlife with participation by the Washington Department of Fisheries, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service indicate that these long-lived and slow to reproduce fish have been overharvested in the basin above Bonneville Dam. The Oregon department has led fisheries managers to adopt new restrictions on catches above Bonneville Dam to help protect this valuable resource.



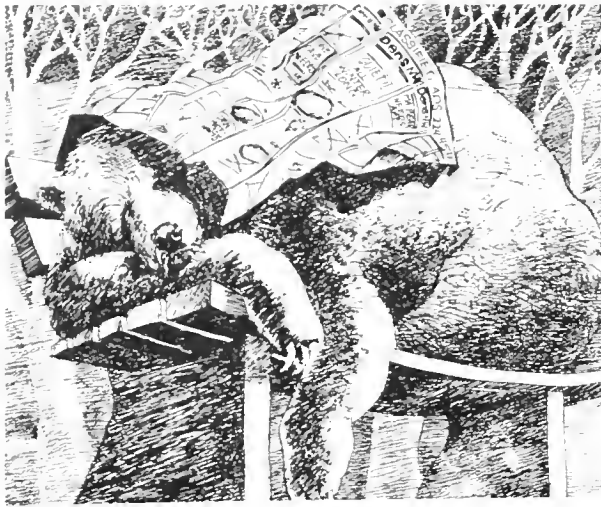
This year was the first full year of actual on-the-land wildlife restoration activities. At the Hungry Horse and Libby dams, in northwestern Montana, mitigation plans were adopted into the program in 1987, and much of the recovery work is already ahead of schedule. For example, Bonneville, the U.S. Forest Service and the Montana Department of Fish, Wildlife and Parks are very close to terms for land easements of riverside habitat for grizzly bears. (In this case, grizzly bears are what is called the "target population," but many other species are expected to benefit from the habitat.) These negotiations are more than a year ahead of schedule.

A proposal to create a trust to fund ongoing wildlife improvements in Montana is expected to be forwarded to the Council for consideration by the first of next year.

There are three more proposals currently in review. They cover mitigation plans for Grand Coulee Dam; three Idaho projects; and eight Willamette Basin projects.

As more and more wildlife proposals come before the Council, it is becoming clearer that a single wildlife policy to apply to all projects may be necessary. Before taking action on any other proposals, the Council wants to initiate discussions throughout the basin to explore policy-related concerns about wildlife protection activities. An issue paper combining the three current proposals and incorporating questions that may need to be resolved was released in September for public comment. The paper addresses questions about the projected cost and ultimate scope of wildlife projects. Most of these projects call for the acquisition and maintenance — in some cases, in perpetuity — of large amounts of land for wildlife purposes. Should hydropower interests cover all or some fixed portion of the reparations? Should limits be set on how much can be spent for wildlife projects? Should habitat be replaced on an acre-for-acre basis?

The issue paper is designed to provoke public debate on these questions and others. Comment will be



taken at Council meetings in each of the four Northwest states, or in writing through January 13, 1989.

The three proposals under consideration are:

The Grand Coulee mitigation proposal is unique in that, at the Council's request, it does not include a detailed wildlife loss statement. The Council determined that moving directly to a negotiated mitigation proposal would save time and money. The three-part proposal includes 1) acquisition of land to protect habitat; 2) improvement and management of habitat; and 3) protection and enhancement of bald eagle territories.

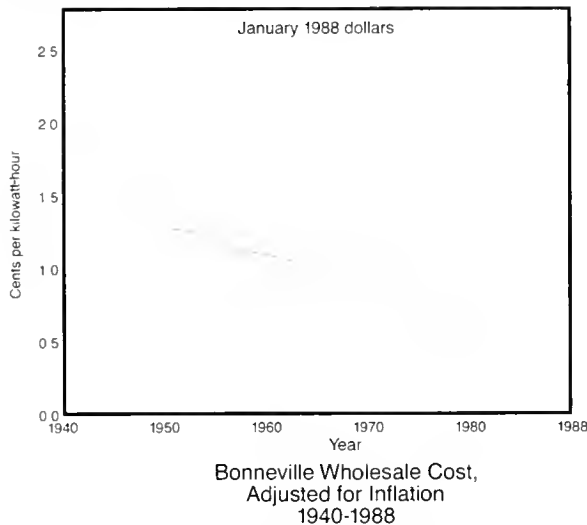
In Idaho, wildlife mitigation plans have been prepared for the Palisades Project on the Snake River, the Black Canyon Project on the Payette River and the Anderson Ranch Project on the Boise River. All three of these hydroelectric facilities are operated by the Bureau of Reclamation. The plans each call for a 10-year program that includes the acquisition and/or enhancement of habitat for species affected by the projects. These species include bald eagles, elk, mule deer, grouse, peregrine falcons, water fowl, and other game and nongame animals.

Willamette Basin: The Willamette Basin plan addresses losses at the Hills Creek, Cougar, Detroit, Big Cliff, Green Peter, Foster, Lookout Point and Dexter hydroelectric projects. Because of these eight dams, a total of 20,123 acres of prime habitat was permanently lost. The plan, which was developed by the Oregon Department of Fish and Wildlife, calls for a 20-year program including acquisition and maintenance of approximately 20,000 acres of big-game winter range lands; acquisition of about 4,400 acres of riparian habitat along the Willamette River Greenway; and three options for compensating for losses of old growth forests.

POWER PLANNING ACCOMPLISHMENTS

The Northwest has become a world leader in least-cost power planning — that is, planning to provide electrical services at the lowest total cost to society. In simple terms, the Council's power plan says "buy only the resources you need and use the cheapest first." This directive brought rationality to power system planning by making cost-effectiveness the test for new resources.

Between 1979 and 1983, Bonneville's wholesale cost of power jumped 500 percent. The Council estimated that 98 percent of this increase was due to nuclear power plant construction. When the Council was formed, utilities were still proceeding with development of new resources including Skagit-Han-

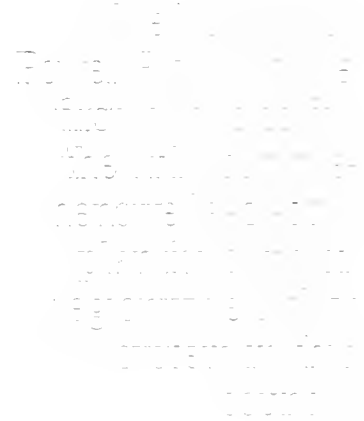


ford Nuclear Plant, the Creston Generating Station and all five of the Washington Public Power Supply System nuclear plants, on the assumption that Northwest power needs would continue to grow. In 1983, after an extensive planning effort involving Bonneville, utilities, state governments, public interest groups and others, the regional forecast showed that the Northwest had surplus power, not a deficit. This recognition likely saved several billion dollars in unneeded generating plants.

Swings in the region's economy and in individual industries, particularly the aluminum companies, contributed to both the rate increases and to a near-term settling of those rates. The region now works together to control the cost of electricity and Bonneville has also cut its costs. The regional planning process identified targets such as reducing the annual preservation costs of Washington Nuclear Projects 1 and 3 from \$40 million per plant to \$5 million per plant, and reducing funding for discretionary conservation programs such as residential weatherization to the minimum viable level. These decisions save tens of millions of dollars each year. The Council also identified important investments that will save millions more in the future.

In addition to the Council's plan for the customers of the Bonneville Power Administration and the entire region, investor-owned utilities in Washington are now required to do least-cost plans, and Oregon and Idaho are considering following suit.

The Council finalized its first Northwest Power Plan in 1983, after widespread regional debate. Because of rapidly changing conditions in the region, the plan was revised and updated, and a new plan was published in January 1986. The Northwest Power Plan was the first, and is so far the only, comprehensive least-cost plan for a major regionwide utility system in this country.



Designed to manage an uncertain future, the plan emphasizes flexibility. Rather than base its proposed resource purchases on a single prediction of future energy needs, the Council identified a range of possible Northwest power needs, taking into account numerous changes that could occur in the region over the 20-year planning period.

Resources were then selected and scheduled for acquisition, with a heavy emphasis on reducing the risk of either oversupply or undersupply of electricity — both of which have proven to be costly planning errors. Programs to improve energy efficiency were given priority as the most flexible resources in the Council's plan, because they have lower overall costs than other resources, can be developed in small increments that match regional growth and can be acquired quickly.

The Council also developed an "options" approach to resource acquisition similar to investment options. The region takes an option on a resource by beginning the relatively inexpensive but time-consuming stages of licensing, siting and designing the resource project. Then the project can either be completed, held in reserve or terminated, depending on the need for energy. The region has limited its financial commitment on the project, but is still prepared to meet the energy need as it develops. In its most recent draft forecast, the Council estimates that if resources are developed according to the schedule in the power plan, Bonneville's future electric rates could be stable or actually decline over the 20-year planning period (after adjusting for inflation).

The Northwest's surplus of electricity has continued, but that surplus is declining. In fact, the Council's recent review of the energy surplus in the region shows a significant drop since the 1986 Power Plan came out. At that time, the Council estimated a surplus of approximately 2,500 megawatts (including firm export sales). The recent review estimated that the surplus now ranges from 1,000 average megawatts to a high of 1,750, with a midpoint at about 1,400 average megawatts. This decrease is consistent with the forecast adopted by the Council in the 1986 plan. (By way of comparison, a city the size of Seattle uses about 1,000 average megawatts.)

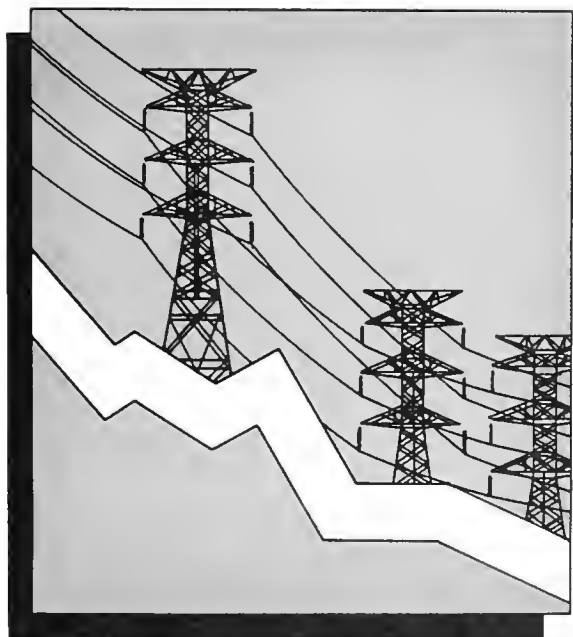
The surplus is decreasing because of an upswing in the economy, increased loads from the aluminum industry, and the closure of the Hanford nuclear reactor. The region could soon be moving through a transition period when it may begin to need new resources. To ensure that the Northwest continues to have economical electricity, it is crucial that the lessons learned during the period of surplus are implemented.

The Northwest has a decentralized electric system, and it is not clear what future load requirements Bonneville and the individual utilities will face. But coordinated resource development is vital. The Council is working with state utility commissions and utilities to promote this coordination. In the 1986 plan, the Council identified approximately \$2 billion in savings if utilities coordinate the development of resources rather than acquire new resources independently as each reaches the point of needing additional power.

But this concept of "regional cooperation" has frequently been misinterpreted to mean taking dollars from one institution and giving them to another. It is, instead, an agreement by two or more parties to pursue a course to their mutual benefit. Power exchanges and transfers are examples. The task before the region is to identify where shared benefits are possible.

Some utilities in the region are relatively resource rich, while others have small amounts of available new resources. Efficient transactions of the regional surplus from the "have" areas to the "have not" areas is necessary to achieve a low-cost energy future. Otherwise, the region faces the possibility of developing expensive power plants in some areas, just as other areas are building houses with little regard to energy efficiency, because their specific area does not have a power deficit at the moment.

Unfortunately, uncoordinated resource development appears to be the course the region is headed toward, and it carries a big price tag. For this reason, the Council is placing a renewed emphasis on the need for regional cooperation in its power plan update.



Technology, available data and the region itself are constantly changing, so the Council monitors these changes and amends the plan as needed. Without this effort, the plan would become a static document,

soon outdated. In the two years since the last plan was adopted, several conditions affecting the region's electric system, such as oil prices, have changed, and new information has become available. As part of ongoing monitoring, the effect of major changes on the plan has been evaluated, and, where necessary, the plan has been amended.

This year, the Council decided to evaluate the cumulative effects of changes that have occurred since the plan was developed. The review will also provide an up-to-date analytical framework for evaluating new issues as they arise.

This analytical update has not affected the entire Northwest Power Plan. For example, the portions of the plan addressing the model conservation standards, the Washington Public Power Supply System nuclear projects 1 and 3, and the Action Plan have not changed. The update recognizes and incorporates those resource changes that have occurred since 1986. Some of these changes affect the timetable and resource mix of the Council's resource portfolio, so it will also be revised during this process. The Council may also decide that there are significant policy issues surrounding certain resources (e.g., the effect of combustion turbines and coal plants on the earth's climate) that may best be addressed in specific public processes outside this update.

Some of the changes resulting from the analytical update may indicate the need for new policy decisions and actions in the Action Plan, which controls expenditures for new resources. In that event, the Council will initiate individual rulemakings (amendment processes) on the separate issues raised. The update process itself or final adoption of the analysis in the update would not constitute adoption of these new actions or policies.

This re-examination began in March, when the Council released preliminary assumptions about the Northwest's economy and fuel prices, which could affect how much electricity the region will need over the next 20 years. This information then became part

of a preliminary forecast of electricity demand for the planning period. The forecast was a first for the region, with the Council and the Bonneville Power Administration developing a joint forecast, timed to coincide with both Bonneville's budget cycle and the Council's analytical update.

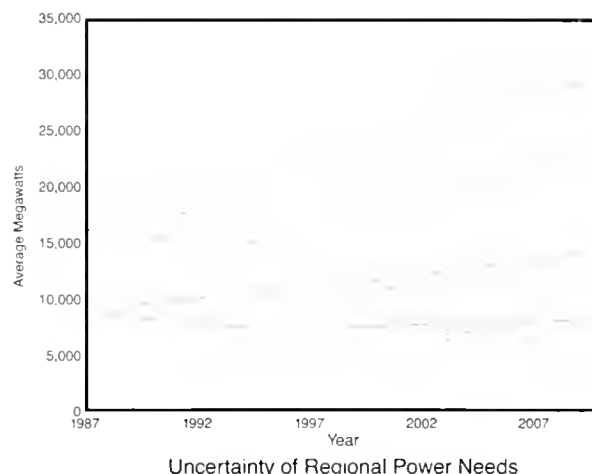
Both agencies reserved the right to make independent determinations on the final forecasts, but the Council and Bonneville conducted the public review process jointly. The decision was made partly as a natural outgrowth of the fact the two agencies already share computer modeling and data, and partly in response to earlier public comment that it was difficult and redundant to track two processes. While neither agency has made final decisions based on this joint process, the progress has been encouraging.

Based on public comment on the preliminary forecast, a joint-revised draft forecast was issued in June for further comment. The revised paper noted that the region's 1986 sales of firm power (electricity guaranteed and contracted for) had been 15,300 average megawatts.

As mentioned earlier, the Council has developed a practice of framing the forecast in terms of a range of possibilities encompassing low to high regional growth (a practice now used by many other planners). In the revised draft of the low forecast, electricity use is estimated to grow to only 15,800 average megawatts by the year 2010; while growth in the high forecast is predicted at 28,600 average megawatts. The difference between the two extremes, 12,800 average megawatts, indicates the degree of uncertainty inherent in the region's power system.

Regional growth in electrical use is most likely to fall between the medium-high and medium-low forecasts, a spread of 4,300 average megawatts. This compares to the 1986 plan where there were 10,980 average megawatts between the high and low forecasts, and 2,737 average megawatts between the medium-high and medium-low forecasts.

Perhaps the greatest challenge in energy planning for the Northwest is the uncertainty associated with each of the Bonneville Power Administration's current and potential customer groups. Bonneville's current



market is made up primarily of public utilities and large industries. But, because of power sales contracts, Bonneville must be able to meet the load growth of investor-owned utilities as long as the agency is given seven-years' notice. This could increase Bonneville's load considerably. On the other hand, major customers of Bonneville, such as the aluminum smelters, could decide to leave the region, causing a significant decrease in Bonneville's load. Even those utilities that have no generating resources of their own and rely entirely on Bonneville require widely varying amounts of electricity to meet their loads. Thus the range of uncertainty is broad. The updated plan will examine how best to manage that uncertainty with each group, at the lowest possible cost.

In June, the Council released for public comment issue papers containing analyses of the amount of energy the region's conservation and generating resources can provide. More is now known about the conservation potential of existing homes and commercial operations than was known in 1986.

The estimate of how much conservation remains to be developed in the region has dropped to 2,381 average megawatts over the next 20 years in the update's high demand forecast, from 4,328 in the 1986 plan. This decline reflects the fact that nearly 2,000 average megawatts have already been "acquired," or will be acquired over the 20-year planning period, through recently developed conservation programs, building codes and legislation. Since 1985, significant changes have occurred in residential and commercial building codes, in new nationwide minimum appliance efficiency standards, and in manufactured housing standards. These changes account for energy savings over the next 20 years equal to the production from three large coal plants. These savings are reflected in the update's draft forecast of future demand. The 2,381 average megawatts of conservation still available are resources for which programs have either not been adopted as codes or have not yet been developed.

Additional information is also available on generating resources such as hydropower, cogeneration, coal and natural gas. Proposed changes in the resource portfolio were included in the staff draft of the analytical update that was distributed for comment in August. The Council is scheduled to take comment on this staff draft through mid-September. The focus of comment at this stage is whether the Council has identified the proper issues and whether the scope of the update is appropriate. The Council expects to decide whether to enter a rulemaking procedure at its September meeting. If the Council enters rulemaking, the updated analysis would be formally proposed as an amendment to the Northwest Power Plan. After a public comment period, the final update language could be adopted in December or January 1989.

The treatment of conservation as a resource comparable to generating resources is one area in which the Northwest is leading the nation. While others are trying to decide what conservation is and how to count it, the Northwest is already purchasing it.

Through the Northwest Power Act, Congress gave the region the impetus to become pioneers. Conservation was given a 10-percent cost advantage to ensure that it is given priority in Bonneville's decisions to acquire resources, but Congress called for a review of that 10-percent advantage after five years. The Act required the Council to complete, by October 1, 1987, a thorough analysis of conservation measures and resources implemented under the Act. After completing that analysis, the Council found that its five years of experience with conservation programs demonstrated that conservation is a cost-effective and reliable resource. The analysis indicated that conservation programs designed to acquire energy achieved savings at levelized costs ranging between 1.9 and 2.9 cents per kilowatt hour. Research, development and pilot projects produced savings at costs that range from less than .10 cents to 8.9 cents per kilowatt-hour.



The Council determined that the region will be able to secure conservation measures and resources at a cost lower than it would otherwise have to pay for additional generating resources. It also found that the non-quantifiable benefits of conservation, such as its impact on local economies and the environment, are at least as important as they were when Congress passed the Act. The Council concluded that the prudent course would be to continue the 10-percent cost advantage for conservation.

During the current period of surplus power, the Council's plan says that resources that can be deferred, including conservation, should be. On the other hand, the Council is concerned that the region not lose the opportunity to acquire certain resources which would lose their cost-effectiveness if not developed or maintained now or in the near term. Consequently, their savings could be lost forever to the region. A primary example of such a "lost-opportunity" resource is the energy savings from new buildings. Since many energy-conserving measures cannot be installed cost-effectively later, buildings con-

structed without these measures will continue consuming energy inefficiently long after the surplus is over. But, if buildings are made efficient when they are built, the region will save roughly \$700 million over the next 20 years.

The region has also addressed the task of ensuring that conservation resources can be acquired when they are needed after the surplus has waned. The Council asked Bonneville to run pilot and demonstration programs to gather information on costs, timing and availability of conservation resources in all major end-use sectors, and to learn how to acquire the resources when needed. These are called "capability building" programs because they develop the capability to deliver the savings.

Bonneville, in cooperation with the region's utilities and state and local governmental agencies, has accomplished a great deal toward meeting the Council's objectives. Between 1979 and October 1987, the region spent \$800 million to \$900 million on conservation. This money has produced the most extensive conservation-related activities in the nation.

The Council's model conservation standards for new residential buildings were originally envisioned as a regionwide building code. After some initial controversy, the standards, which include all measures that cost the region less than an equivalent amount of all other resources in the plan averaged together, have evolved into Bonneville-supported programs. These programs allow local jurisdictions to establish building codes that achieve the savings of the Council's standards, or permit utilities to encourage efficient construction practices in their service territories through a combination of marketing and financial incentives.

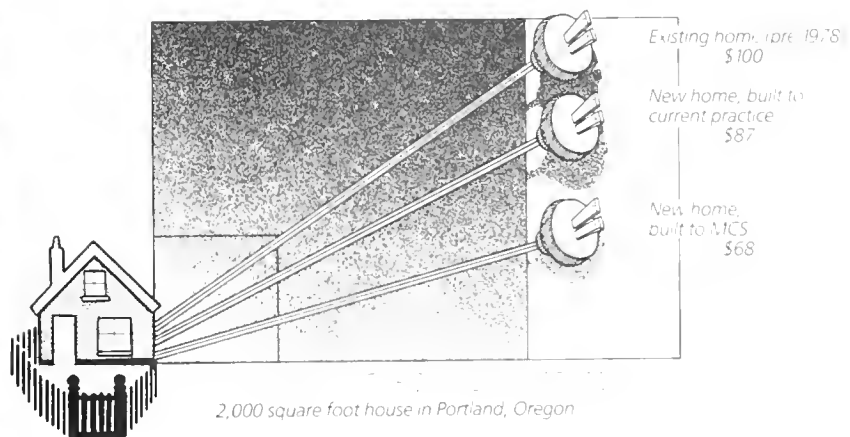
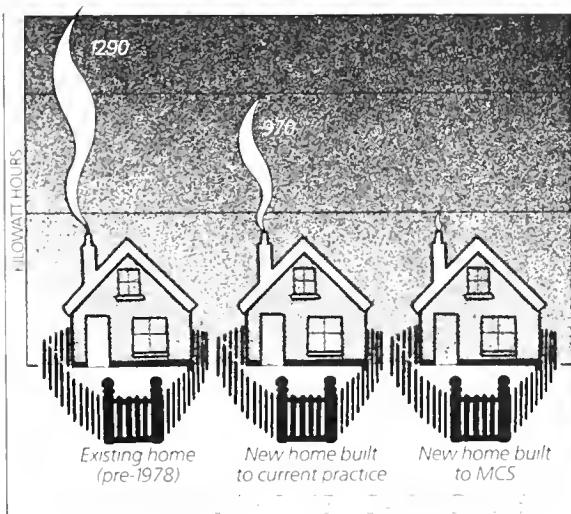
More than 36 jurisdictions have adopted the standards as part of the local building code, 112 utilities are implementing "Super Good Cents," the name given to the marketing and financial incentives program, and two are implementing equivalent programs. These Bonneville programs are now embraced by all but one of the region's utilities and are credited with changing residential construction practices in the Northwest.

The standards call for the highest level of energy efficiency in new electrically heated residential buildings in the nation and set efficiency requirements for equipment used to heat, light, ventilate and air condition other buildings. These standards result in electricity savings at a far lower cost than new coal plants. The model conservation standards were also a partial impetus for the states of Oregon and Washington to improve efficiency requirements of their state building codes.

For commercial buildings, the Council has encouraged the development of programs, such as Bonneville's "Energy Edge" competition, which provide incentives for builders to experiment and become familiar with energy-efficient designs, technologies and new construction techniques. These programs should help bring down the cost of energy-efficient construction, as builders gain more knowledge and as markets for energy-efficient components expand.

The Council is currently considering amending the model conservation standards for non-residential buildings, because some codes in the region are more stringent than its standards, and, in addition, the U.S. Department of Energy and the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) are currently revising their standards to be more stringent. New energy-efficient technology is available, particularly with commercial lighting, that will be taken into account in the amended standards.

To ensure that all conservation programs meet the Council's goals of capability building and securing lost-opportunity resources, the Council amended the plan in the fall of 1987 to include general model conservation standards for all sectors and end-uses of electricity not already covered by the Council's model standards.



This year, as part of its efforts to deal with uncertainty and monitor the status of the region, the Council carried out a Western Electricity Study. Electricity systems in the various regions of the West are becoming more and more interrelated as utilities seek to

improve efficiency and reduce costs through cooperative power arrangements. Conditions in other regions of the western United States and Canada could have important impacts on the Council's planning activities for the Pacific Northwest. With an understanding of the interrelationships in the broader system, the Council will be better able to plan for the electricity needs of the Northwest. The

Council is also monitoring long-term sales out of the region, to ensure that the Northwest avoids a situation where new resources must be acquired to serve loads that would have been served by existing resources if the power had not been sold outside the region.

In its study, the Council looked at the significant diversity in the patterns of electricity demand in various subregions of the West. Differences in climate offer opportunities for sharing generating capacity and, therefore, reductions of overall peak energy requirements. Further, differences in the characteristics and costs of generating resources in subregions of the West create substantial potential for beneficial cooperation.



Many interregional transfers of power currently take place and create significant benefits for the West's power systems. Major flows of power are from eastern coal plants to coastal load centers, and of nonfirm and surplus hydroelectric power from the Northwest to California. The former are primarily a result of utilities building coal-fired power plants near the source of coal. The latter are primarily energy transactions in which California utilities displace their own high cost generation with cheaper hydropower when it is available.

CONGRESSIONAL ACTIVITIES

The Council's congressional activities in 1988 fall into four major categories: testifying before Congress; updating Congress on power, fish and wildlife issues in the Northwest; monitoring congressional activities that potentially affect the Council's responsibilities; and responding to requests for information from congressional offices and committees.

The Council testified on the budget requests of five federal agencies that are responsible for implementing parts of the Columbia River Basin Fish and Wildlife Program. In April, the Council presented testimony before the Energy and Water Development Subcommittees of the House and Senate Committees on Appropriations regarding the budgets of the U.S. Army Corps of Engineers, the Bureau of Reclamation, the Bonneville Power Administration and the Federal Energy Regulatory Commission. The Council also submitted testimony to the Committees on Appropriations in the House and Senate regarding the budget of the National Marine Fisheries Service.

The primary focus of the Council's testimony was the Corps of Engineers' budget and spending on new and improved fish bypass screens and related facilities at Corps' dams on the Columbia and Snake rivers. These facilities will divert young salmon and steelhead migrating to the ocean away from deadly turbines and reduce fish mortality at the dams by roughly 50 percent. The Corps' budget request for next year proposed only \$2 million to continue studies on the fish screens at Bonneville Dam's Second Powerhouse. This limited budget request would have terminated funding for the continuation of design and construction of critical fish bypass and complementary transportation facilities at the other federal mainstem dams. Moreover, the Corps delayed allocation of current year funding that was added to the budget by Congress. In Fiscal Year 1988, Congress added \$8.7 million for fish bypass facilities at five federal dams. The executive branch delayed release of this funding, which in turn will delay the completion of these needed facilities.

In 1987, the Council helped develop a consensus among private and public utilities, Indian tribes, fish and wildlife interests, and the Bonneville Power Administration on the need for expedited completion of bypass improvements at Little Goose, Lower Granite, McNary and Bonneville dams and for new facilities at Ice Harbor, Lower Monumental and The Dalles dams. This regional consensus resulted in a schedule for completing these facilities by 1994. Due in large part to the delay in the release of 1988 funds, the original schedule, hammered out by those in the



region, cannot be met. To continue progress on bypass facilities under a new schedule, the Council estimated that about \$9.6 million of additional funding would need to be added by Congress to the 1989 budget request.

During consideration of the Fiscal Year 1989 Energy and Water Development Appropriations bill, Congress addressed both the Council's concern over the delay in spending 1988 funds and the lack of continued funding in the Corps' budget request for 1989. The final appropriations bill includes a provision directing the Corps to immediately use funds that were approved by Congress for 1988. In addition, Congress added \$9.6 million to the Corps' 1989 budget for the fish bypass program. Those funds are to be used as soon as they are available. Additional funds for next year were allocated by Congress for improvements at Little Goose, Lower Monumental and McNary dams, and for new facilities at Ice Harbor, Lower Monumental and The Dalles dams.

In testimony before Congress, the Council also opposed budget cut proposals affecting the National Marine Fisheries Service's operations budget for 24 hatcheries in the Columbia River Basin. The Council noted that these hatcheries account for half the basin's salmon and steelhead production, annually releasing nearly 100 million juvenile salmon and steelhead into the Columbia system. During action on the relevant appropriations bill, Congress again

restored adequate funds to continue the operation of these vital fish hatcheries.

On the Bureau of Reclamation's budget, the Council reaffirmed its commitment to the Yakima River Basin as a high priority for fish enhancement projects in the Columbia River Basin. The Council testified that \$7.4 million for the Yakima fish passage facilities in the Bureau's budget request appears adequate to meet the schedules developed by the affected parties. The Council also

supported the budget for continuing studies on the Yakima River Basin Water Enhancement Project and for advanced planning for the Umatilla River Basin Project — two important efforts to promote sound water use and to enhance the fisheries resource. Through the appropriations process, Congress approved funding for these activities in the Yakima and Umatilla river basins.

The Council has followed closely the development of legislation to authorize certain water resource projects in the Northwest. Testimony was presented to the Senate Committee on Energy and Natural Resources supporting the bill to authorize construction of the Umatilla River Basin Project. In addition, the Council has been active in discussions on the legislation, which was recently reintroduced, to promote a comprehensive program for the critical water resource situation in the Yakima River Basin.

In addition to formal contacts with Congress, such as testimony before specific committees, the Council also provides information on a broad range of fish and wildlife issues as well as updates to Congress on the

Council's progress in implementing its program. One of the most controversial issues the Council has addressed is the plan to provide protection from hydropower development for certain rivers or river segments in the Northwest. Congress has displayed a strong interest in this issue. The Council has endeavored to keep the Congress fully informed of any developments relating to this "protected areas" issue.

In 1988, the Council also testified before the Energy and Water Development Subcommittees of the House and Senate Committees on Appropriations regarding the proposed budget for the Bonneville Power Administration. Bonneville is the prime implementer of the Council's power plan. The Council testified in strong support for adequate levels of borrowing authority so that Bonneville can continue to develop the capability to deliver conservation resources in all sectors of the region's economy. Such an effort would help ensure that all cost-effective conservation resources would be available when needed by the region. The Bonneville budget proposed to eliminate payments in January 1989, for the residential model conservation standards program. The Council and others in the region opposed this proposal. An agreement was reached with Bonneville for continuation of the full model conservation standards program until adequate regionwide penetration rates are reached. This regional agreement for the continuation of the support was affirmed by the Congress in both the budget and appropriations processes.

The Council was asked by the House Subcommittee on Energy and Power to submit comments on the Council's innovative least-cost power system planning approach. The Council explained the role for conservation in least-cost planning in the electric utility industry and outlined how least-cost plans can be applied even in a more deregulated utility environment.

During the year, the Council provided congressional offices with background information on Northwest power issues and responded to inquiries from those offices. Assistance also included providing general publications, including issue papers, background material and power plan proposals. Those activities helped keep Congress informed on progress in implementing the 1986 Power Plan and progress in developing the Power Plan Update.

PUBLIC INVOLVEMENT ACTIVITIES

The Council vigorously encouraged public involvement in 1987/88. More private individuals testified before the Council this past year than in any previous year, including those years when the Council developed its first Columbia River Basin Fish and Wildlife Program and Northwest Power Plan. In addition, new interest groups have been identified and involved in the Council's activities. The Council's mailing list has grown to more than 20,000 names, nearly doubling in five years.

The Council's Public Involvement Philosophy

The Council takes its public involvement obligation seriously. Not only does the Northwest Power Act mandate that the Council carry out a public involvement program, but the Act repeatedly emphasizes the need for broad public participation in Council activities.

References to this obligation are found in a variety of places. One of the most prominent references appears under the purposes of the Act, Section 2(3), which stipulates participation of both specific groups (states, local governments, consumers, federal and state fish and wildlife agencies, Indian tribes) and the general public. In the Act's most emphatic statement on the subject, Section 4(g)(1), Congress mandates the establishment of a "comprehensive" public

involvement program both to inform the public and to obtain public views on Council activities.

The Council does more than provide information on request. It initiates activities and develops materials designed to promote public interest. The Council also recognizes that the technical subjects it deals with, while extremely important to citizens of the Northwest, are often complex and unfamiliar to the lay person. Therefore, the Council makes a special effort to: 1) provide education about issues, and 2) produce written materials and oral presentations that are clear, graphically illustrated and contain a minimum of technical jargon. The goal is to provide *opportunity* and *encouragement* for all members of the public, not just vested interest groups, to participate in the Council's work.

The Council is able to carry out its extensive public involvement activities because of a commitment at all levels. Much of the public outreach is conducted through the state offices. Council members and their staffs maintain contacts with organizations within their states and hold meetings and briefings for groups, members of the media and private citizens. In addition, they maintain busy public speaking schedules. The state offices provide an important local contact for the public and provide public information on how regionwide Council issues affect individual states.

The Council makes an effort to be easily accessible. In addition to having an office in each state, the Council invites both oral and written comment. Comments are accepted in a variety of forms, ranging from testimony at meetings to handwritten letters to phone calls on toll-free lines.

At any time during normal working hours, individuals can phone the Council's public involvement division to request information or materials and receive prompt service. All members of the division keep abreast of Council issues and can either answer questions directly or refer callers to the best person to provide the needed information.



Opportunities for comment and the Council's toll-free numbers and addresses are widely publicized in free Council publications and through the media. The Council has advertised in major regional newspapers and magazines to solicit names for its extensive mailing lists.

No issue involved more people than the Council's proposal to designate certain Northwest stream reaches as protected from hydropower development because of their importance to fish and wildlife. Last fall, the Council circulated a staff issue paper on the subject to gauge the public interest and refine the concept. The paper provoked considerable discussion and elicited more than 450 written comments. The vast majority favored the Council's taking the action. Dozens of people also testified orally before the Council. At this preliminary stage, the Council held consultations with interest groups and extended its consultation deadline to accommodate the large number of groups interested in the issue.

In April, the Council proposed the "protected areas" amendment for its fish and wildlife program and power plan. This kicked off a new and more intensive round of public comment which included a dozen hearings in the four Northwest states, more consultations with interested groups and the receipt of comment from more than 2,000 individuals and organizations. Again, the public sentiment, while not unanimous, leaned heavily in support of the proposed amendment.

Media packets and briefings were used to augment the Council's own publications and educate a broader public on the issue. Media coverage was intensive and included a five-minute segment televised on NBC's "Today" show. The Council also distributed

self-addressed "comment" forms to encourage members of the audience at hearings to submit comment.

In April, the Council began seeking comments for its economic and demographic assumptions and demand forecast, the preliminary steps in an update of the analysis in the Council's power plan. In an historic step, the Council and the Bonneville Power Administration agreed to share a joint public process to develop their forecasts. The action was designed to encourage and expedite public involvement. In the past, both agencies had received comment that it was redundant and difficult to track two forecast processes. Each agency has reserved the right to make independent forecast decisions, but the process of taking comment and issuing information has been combined.

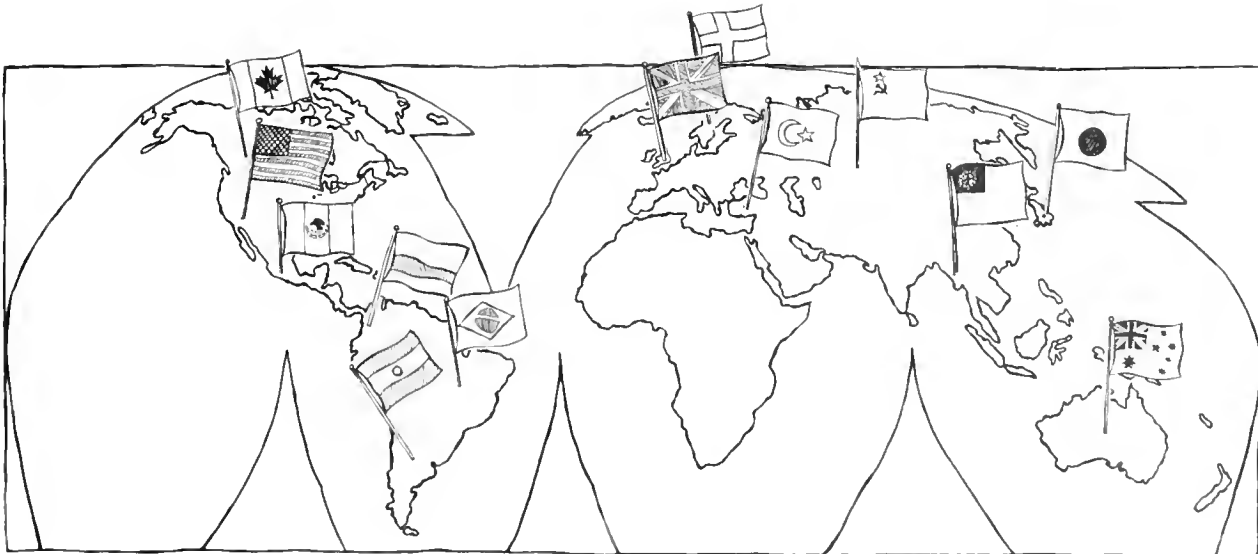
The Council also published issue papers on its preliminary analysis of conservation and generating resources as part of the plan update process. In August, the Council issued a staff draft of the entire power plan update asking for comment on whether or not the update raises the proper issues. Following comment on the staff draft, the Council will consider entering rulemaking to amend its power plan. If it does, a new public review process will begin.

In July, the Council hosted a State Legislative Conference on Energy Options. Key legislative leaders and staff from the Northwest were invited to discuss the region's progress with the model conservation standards and to work toward a consensus for more energy-efficient building codes. Speakers included Charles Imbrecht, chairman of the California Energy Commission, Ralph Cavanagh of the Natural Resources Defense Council and Fred VanNatta of the Oregon State Homebuilders Association, as well as officials from the Bonneville Power Administration, utilities, environmental groups and members of the home-building community.

Approximately 130 people attended the conference. Spanning two-and-one-half days, the conference provided in-depth education about the model conservation standards as well as opportunities for questions and answers. Council members are planning follow-up meetings with legislative members and their staffs.

the Council hosted a briefing and tour for the Pacific Salmon Commission, its staff and advisory panels during the Commission's first meeting in Portland, Oregon. Established by the U.S./Canada Pacific Salmon Treaty, the Commission governs treaty implementation. Its members, four from each country, are appointed by the president of the United States and the prime minister of Canada. The treaty addresses the conservation and allocation of salmon and steelhead resources shared by the two countries, with a particular emphasis on Columbia River stocks. Council members briefed the Commission on efforts to rebuild Columbia Basin salmon and steelhead runs as part of the Columbia River Basin Fish and Wildlife Program.

In February, the Council sent letters to approximately 13,000 regional home builders informing them about the latest developments on energy-efficient construction and inviting them to be on the Council's mailing list. Approximately 1,500 builders returned self-addressed cards asking to receive more information. They were put on the mailing list for the Council's newsletter, and also received a follow-up letter describing changes in the Federal Housing Administration's appraisal system that will now take energy efficiency into account in determining the loan-to-income ratio for new homebuyers applying for mortgages in the Northwest.



Energy officials from a number of other countries visited the Council in 1988 to get a first-hand look at least-cost power planning and innovative fisheries recovery work in action. These visitors came from England, Canada, Burma, Japan, Turkey, Australia, Germany, Sweden, several South American countries and Mexico.

In March, three top-level Soviet energy officials met with Council members and staff to learn about energy-efficient construction. Council members took them on a tour of new homes and commercial businesses that had been built to meet or surpass the model conservation standards.

The visit was part of an exchange of technologies between the Soviet Union and the United States and was sponsored jointly by the U.S. National Academy of Sciences and the Academy of Sciences of the U.S.S.R.

Council Executive Director Edward Sheets serves on the State and Regional Advisory Panel of the National Academy of Sciences, and Jim Litchfield, director of power planning, is on the Academy's panel conducting joint research with the Soviet Academy.

In addition, former Washington Council Member Kai Lee was invited to present a paper on the Council's fish and wildlife program to an international gathering of scholars in Vienna, Austria, in June.



Council members and staff have also been invited to appear before Congress, state legislative committees, public utility commissions and at several conferences in Canada and the U.S. to testify or present papers on the region's pioneering efforts in least-cost energy planning and fish and wildlife protection.

Council decisions are made in open meetings held throughout the four states. (The Council's committee meetings, which shape the agendas of the regional meetings, are also open to the public.) The decision process begins with the publishing of a staff issue paper designed to provide information and provoke comment. This initiates a public comment period of at least one month; comment periods for major documents can range up to three months.

The issue papers are presented, complete with descriptive slide shows, at the Council's regular monthly meetings. At the following meeting, the Council takes public testimony on the issue. During the next month, the Council and staff review both oral and written comments on the issue and revise the issue paper accordingly. Only after this lengthy public process does the Council make a decision, at the third open meeting in the sequence.

Throughout the process, the Council notifies the public of opportunities for comment in its meeting agendas and newsletter, *Update!*, and publishes informational and readable features about current Council issues in its magazine, *Northwest Energy News*. These publications are circulated free of cost to thousands of Northwest citizens.

If the issue under discussion involves a proposed amendment to the Council's fish and wildlife program or power plan, the Council holds public hearings in each Northwest state in addition to the comment opportunities listed above.

Other activities include working with public advisory committees, and consultations with and presentations for all interested parties. Outside agencies and groups are often invited to make panel presentations at Council meetings on major energy and fish and wildlife issues. Media packets and media briefings are prepared prior to all Council meetings to help inform the general public on major issues.

Many ongoing public involvement activities are aimed at increasing regional understanding of the Council's work specifically and Northwest power and fish and wildlife issues in general.

□ **Issue and Briefing Papers:** Staff papers are prepared to provide information on topical issues and to solicit comment. While many of these papers are technical, great effort is made to keep them from becoming esoteric. Acronyms and technical terms are explained in footnotes and glossaries. In addition, backgrounders and newsletter stories on the same issues are produced for a lay audience. During the past year, the Council published 45 issue and/or briefing papers. [See Appendix D for a list.]

□ **Public Involvement Specialist:** A staff position with the title "public involvement coordinator" maintains an information and coordination liaison on Council issues with a number of interest groups around the region, including: cities, counties, local government associations, conservation groups, state energy offices and public utility associations. This involves a full range of activities, including initiating contacts, providing information, responding to requests, ad hoc problem solving, participation in meetings and public speaking. The public liaison plays a key role in helping local governments implement the Council's model conservation standards for energy efficiency in new electrically heated buildings.

□ **Advisory Committees and Working Groups:** Several committees, made up of interested parties and experts on key issues, meet regularly to advise the Council. Each advisory committee is set up to focus on a specific current project or issue and to develop information and recommendations for the Council on this subject. As the issue is decided or the project completed, the advisory committee is disbanded. New committees are formed as new activities arise. This allows a number of people to become involved in advising the Council and gives the Council the advantage of a wide variety of expertise. [See Appendix C for a list of committees for the past year.]

□ **Magazine:** The bimonthly magazine, *Northwest Energy News*, has won several awards for excellence. This 32-page magazine carries feature stories about issues relevant to the Council's work in easy-to-read, non-technical language. The circulation has grown to nearly 20,000.

A monthly newsletter, *Update!*, carries current events, notice and agendas of Council and advisory committee meetings, notice of rulemakings, deadlines and instructions for comment, and a list of all available publications. Toll-free numbers to order materials or call for information are displayed prominently. Circulation is 15,000.

□ **Backgrounders:** The Council publishes short, non-technical summaries of all major issues. These backgrounders are provided for each Council meeting agenda item and are available at all of these meetings.

□ **Media Packets:** Comprehensive media packets including meeting agendas are prepared and sent to members of the media in the vicinity of each Council meeting. Meeting agendas are also mailed to a broader list of Northwest media representatives. Media briefings are held regularly to update both reporting and editorial staffs of newspapers, radio and television on topical issues.

□ **Color Slides:** The public information/involvement staff produces full-color, graphic slides for all Council meetings and many other presentations to facilitate understanding of complex issues. Hard copies of the slides are available to the audience.

□ **Public Library:** The Council maintains a public information library at its central office in Portland, Oregon. Materials include administrative records of all amendments to the power plan and fish and wildlife program, as well as general reference materials and periodicals on power and fish and wildlife issues.

□ **Films:** The Council developed two films explaining the Council's power planning strategies and the region's efforts to rebuild fish and wildlife populations. Copies on film or video cassette have been given free of charge to libraries, schools and agencies that use the films frequently. Other individuals or groups are able to borrow the films or tapes on request.

LEGAL ACTIVITIES

Because the Council faced no major litigation in 1988, it was able to concentrate on issues relating to the implementation of the power plan, fish and wildlife program and model conservation standards. The Council has now become an important forum within the region for deliberation of power and fish and wildlife issues.

Settlement Agreements: During 1988, pursuant to settlement agreements reached in two actions filed in 1986 to challenge the sufficiency of the Council's model conservation standards, Northwest Con-

servation Act Coalition, et al. v. Northwest Power Planning Council and CASE, et al. v. Northwest Power Planning Council, the Council completed a rulemaking that established model standards for new and existing structures not covered by the Council's new residential and commercial model conservation standards, which were amended most recently in 1987.

Power Plan Update: The Council is in the process of updating its 1986 Power Plan. To keep the plan current, and to determine whether more extensive revision of the plan might be in order, the Council has released for public comment a draft of the staff's current analysis of the technical basis for the plan. Based on an evaluation of this technical update, the Council will decide whether rulemaking procedures are needed to revise the plan further.

Protected Areas: In a major policy initiative, the Council amended the fish and wildlife program and the power plan to designate some 44,000 miles of streams in the Northwest as "protected areas," areas where further hydroelectric development would be restricted. The protected areas process is described in the fish and wildlife and public involvement sections of this report.

Public Participation: Pursuant to its policy of inviting participation and comment on significant decisions regarding its operations, especially those that involve the public, the Council has conducted two rulemakings this year regarding Council procedures. In the first, the Council decided to use its monthly newsletter, *Update!*, to issue notices of upcoming Council events and to publish statements and summaries of Council decisions and actions. *Update!* is sent free of charge to approximately 15,000 subscribers, and is much more widely read within the region than the publication previously used for official notices, the *Federal Register*.

In the second rulemaking, the Council is interpreting the review and revision responsibilities imposed by the Northwest Power Act. The Act directs the Council to review the power plan at least every five years and to solicit recommendations for fish and wildlife amendments prior to development, review or major revision of the plan. It is the Council's practice to review and revise the plan on a continual basis, as new information, better analysis or changed circumstances suggest. Therefore, the Council is considering a policy of reviewing the entire plan at least every five years, at which time it will call for amendments to the entire fish and wildlife program. The proposed policy interprets a "major revision of the plan" as one that is likely to have significant consequences for fish and wildlife affected by the development or operation of the hydroelectric facilities in the Columbia River Basin. The proposal also states that before adopting such a revision, the Council will call for relevant fish and wildlife recommendations. Parties will, of course, still be free to petition the Council to amend the plan or program at any time, pursuant to the Council's petition process.

In July 1988, the Council entered rulemaking to consider whether Bonneville should pay the cost of operating non-federal pumps to transfer water from the Columbia River to the Umatilla River to aid fish migration. The questions associated with this proposal are more fully described in the fish and wildlife section of this report.

Council's Efforts to Encourage Informal Discussion and Resolution of Issues

The Council's efforts to encourage the informal discussion and resolution of issues have included a number of topics beyond those taken up in rulemaking. Perhaps the most important topic is the Council's relationship to Bonneville. Conversations with Bonneville's legal staff occur frequently. The opportunity to air problems of mutual concern is extremely valuable, and the Council appreciates the cooperative and thoughtful tone of these conversations.

During much of 1988, the Council has been involved in negotiations with Bonneville, fish and wildlife agencies and certain Indian tribes concerning the amount of water that should be spilled at mainstem federal dams in order to aid fish migration. This subject is also addressed in the fish and wildlife section of this report.

During the past year, the Council has tried to build a closer working relationship with the Federal Energy Regulatory Commission (FERC). The legal division has become the Council's liaison to the Commission. A series of meetings has been held with Commission staff to discuss the role of the Council's plan and program in the Commission's hydropower licensing process. In June, the Council's chairman and members of the Council staff met individually with each of the Commissioners.



Recent developments, including *LaFlamme v. FERC*, 842 F.2d 1063 (9th Cir. 1988) and the Electric Consumers Protection Act of 1986 (Pub. L. 99-495, 100 Stat. 1257), have emphasized the importance of state and regional comprehensive plans. The Commission has determined that the Council's power plan and fish and wildlife program are comprehensive plans. These are the first plans to be so designated, and the Council is working closely with the Commission in a cooperative effort to ensure that these plans are fully considered in the Commission's licensing and relicensing decisions. The Commission is already obliged under the Northwest Power Act to take the fish and wildlife program into account to the fullest extent practicable in all relevant decision-making processes.

Members of the Commission and its staff have also expressed considerable interest in the Council's experience with conservation. They have particularly invited comments from the Council about how conservation can be integrated into a proposed bidding process for new resources. In response, the Council has provided detailed comments addressing the Commission's concerns.

The Council has also been concerned with the effect on the region's utilities of litigation arising from the default by the Washington Public Power Supply System on loans used to finance the construction of two nuclear plants, WNP-4 and 5. The Council obtained permission from the presiding judge to discuss with affected utilities the status of the case and whether the Council could be of assistance in resolving the case. Council members and staff met with a number of affected utilities and are continuing to monitor the case.

Section 4(a)4 of the Northwest Power Act provides that the Council is subject, to the extent appropriate, to federal laws that apply to the Federal Energy Regulatory Commission with respect to open meetings.

In general, these laws provide that when a quorum of the Council (five or more members) is present, the deliberations must take place in public. The Council decided to go well beyond this requirement and opens to the public the meetings of both its power and fish and wildlife committees. Thus, those interested in the Council can observe not only its formal deliberations, but also the preliminary working sessions where Council staff and small groups of Council members informally discuss issues in detail.

The following summary is supplied to Congress in compliance with the open meetings policy of the Council and Section 4(g) of the Government in the Sunshine Act. Between October 1, 1987, and September 30, 1988, the Council conducted a total of 37 public meetings. Limited portions of the following meetings were closed to the public in conformity with the requirements of the Sunshine Act for the reasons stated:

internal personnel matters	Helena, Montana
internal personnel matters	Tacoma, Washington
internal personnel matters; civil litigation and premature disclosure	Portland, Oregon
internal personnel matters	Portland, Oregon

ADMINISTRATIVE ACTIVITIES

The Council's work is performed, depending on the tasks, either by the Council's professional staff or public agencies and Indian tribes under inter-governmental agreements. Consultants under contract are also used on a limited basis. Advisory committees are used extensively on certain aspects of the Northwest Power Plan and the Columbia River Basin Fish and Wildlife Program.

The Council's central staff of 44 people is located in Portland, Oregon. The staff evaluates energy and fish and wildlife matters that come before the Council. In addition, public information and involvement activities, support and testimony on congressional issues, and legal and administrative services are provided by the central office staff. This staff also assists the four state Council offices and Council members in conducting those activities necessary to carry out each state's responsibilities under the Act.

Budget

During Fiscal Year 1988, the Council devoted its efforts to reviewing the technical basis for the 1986 Power Plan and monitoring implementation of the Columbia River Basin Fish and Wildlife Program. Initially, the Council had anticipated an underexpenditure of approximately \$460,000. However, a major fish and wildlife project was added to the fish and wildlife program in 1987. The Council reprogrammed the anticipated savings to continue an integrated

salmon and steelhead production planning effort for 31 subbasins in the Columbia River system. As a consequence, the Council expected to use its entire budget of \$6,782,000.

The largest categories of expenditure in Fiscal Year 1988 were for the operations of the central and state staffs supporting the Council members and for fish and wildlife planning contracts. (The Fiscal Year 1987 Audit is reproduced in Appendix F, which is available on request from the Council's central office.)

In August 1988, the Council presented to Bonneville its Fiscal Year 1990 and revised Fiscal Year 1989 budgets. The Council's proposed budget for Fiscal Year 1989 is \$7,872,000. This amount will include major expenditures in the Columbia River Basin Fish and Wildlife Program to continue the subbasin planning process described above.

Budget projections assume continuing efforts to monitor the implementation of both the fish and wildlife program and the power plan and possible amendments to either, as new information from the implementation activities is evaluated. The budget was made available for public review and comment and is expected to be submitted to Congress by the President early in 1989 as part of Bonneville's budget submittal. Copies of the Council's budget are available on request.



COUNCIL MEMBER BIOGRAPHIES

Current Members



1987, Washington

was the majority leader in the Washington State Senate from 1983 to 1987 and the minority leader from 1981 to 1982. Prior to that, he was the chairman of the Senate's energy and utilities committee. Bottiger represented southern Pierce County and northeastern Thurston County in both the Senate (from 1973 to 1987) and in the House of Representatives (from 1965 to 1972). He is an attorney and a partner in the Tacoma firm of Counsell, Murphy and Bottiger.



1987, Idaho

spent six years as chief of staff for Idaho's Senator James McClure prior to being appointed to the Council. In 1966, he managed McClure's first campaign for U.S. representative for Idaho's 1st Congressional District and had been a member of McClure's staff since then. As chief of staff, Goller managed McClure's Idaho offices and supervised the senator's Washington, D.C. staff, including staff members of the U.S. Senate Committee on Energy and Natural Resources and the U.S. Senate Committee on Appropriations.



1985, Montana,
chairman

was director of the Montana Department of Administration from 1981 to 1985. As director, he was also ex officio treasurer for the State of Montana and chairman of the Governor's Capital Finance Advisory Council. He is a certified public accountant and served as Montana's legislative auditor from 1967 to 1981. In this role, he was responsible for conducting financial and program audits of all state agencies.



1988, Oregon

was an Oregon state senator from 1963 to 1983. During this period, he served as Senate majority leader and as chairman of the Senate committees on energy and the environment, land-use, human resources and housing. Hallock's legislative activities focused on statewide land-use planning, environmental quality, tax reform and health care. He co-authored Oregon's innovative 1973 land use bill. In addition, Hallock has operated a public relations firm in Portland since 1959.



Betty Paulus
1987, Oregon

Betty Paulus, a Salem, Oregon lawyer, served as secretary of state in Oregon from 1977 to 1985. When elected in 1976, she was the first woman in Oregon history to win a statewide election. In 1986, Paulus was her party's nominee for state governor. From 1971 to 1977, she represented Marion County for three terms in the Oregon Legislature. Paulus was an appellate lawyer before entering public service.



Bill Thorne
1985, Washington,
vice chairman

Bill Thorne has been a professor of economics at Eastern Washington University since 1969 and is currently taking a three-year leave of absence. He was mayor of the City of Cheney from 1978 to 1985. Active in the Association of Washington Cities, he served as a member of several of its committees and was president of the association from 1984 to 1985. During the development of the 1983 Power Plan, he was vice chairman of the Northwest Power Planning Council's forecasting subcommittee.



John Saxvik
1981, Idaho

John Saxvik has been on the Council since its formation in 1981. He has served as both chairman and vice chairman. Saxvik was chief of staff for Idaho Governor John Evans, and vice president and general manager of KBAR in Burley, Idaho. Saxvik served three terms in the Idaho State Senate where he was assistant Senate minority leader. He was legislative liaison to the governor from 1977 to 1978 and director of the Office of Aging in 1978.



Bill Turman
1988, Montana

Bill Turman was lieutenant governor of Montana from 1981 to 1988. His career as a public official began in 1970 when he became mayor of Missoula. He was then elected to the Montana House of Representatives where he served in 1973 and 1974. He was next elected to the Public Service Commission for two terms. Turman also serves as chair of the Montana-Canadian Provinces Boundary Advisory Committee.

Council Members Retiring This Year



1985 — July 1988,
Oregon

served in the U.S. House of Representatives representing Oregon's 4th and 3rd Congressional Districts from 1963 to 1967 and from 1974 to 1980. He represented Jackson County in the Oregon Legislature for three terms from 1957 to 1962 and was speaker of the House during the 1959 and 1961 sessions. Duncan was a member of the Portland law firm of Schwabe, Williamson, Wyatt, Moore and Roberts from 1980 to 1985. In March, Duncan announced his resignation from the Council. Oregon Governor Neil Goldschmidt appointed former State Senator Ted E. Hallock to complete Duncan's term.



1983 — November 1987,
Washington

is an associate professor of environmental studies and political science at the University of Washington; he is also an adjunct faculty member at the Institute of Marine Studies. He serves on the Board of Radioactive Waste Management at the National Academy of Science. From 1976 to 1977, he served as a White House Fellow to the Secretary of Defense.



1981 — January 1988,
Montana

was an original member of the Northwest Power Planning Council, having participated in drafting the Northwest Power Act as administrative assistant and energy advisor to Montana Governor Ted Schwinden. Mueller served as Governor Schwinden's aid from 1978 through 1981. He was program manager for the Major Facilities Siting Act in 1978. Between 1974 and 1978, he was an air quality analyst for the energy planning division of the Montana Department of Natural Resources and Conservation.

referenced in this Annual Report. To obtain them, contact the Council's Public Information and Involvement Division, 851 S.W. Sixth Avenue, Suite 1100, Portland, Oregon 97204-1348. Telephone: 503-222-5161 or toll free 1-800-222-3355 from Idaho, Montana and Washington, and 1-800-452-2324 in Oregon.

APPENDIX A: Northwest Power Planning Council
Staff Directory

APPENDIX B: Agendas of Council Meetings

APPENDIX C: Advisory Committees

APPENDIX D: Documents Made Available to the
Public in Fiscal Year 1988

APPENDIX E: Selected Newspaper Articles About the
Council

APPENDIX F: Fiscal Year 1987 Annual Audit

APPENDIX G: Comments on the Draft Eighth Annual
Report



1. 1990 10/10/90 10/10/90

[illegible]

1. The first part of the document is a list of names and dates, which appears to be a roster or a list of participants. The names are written in a cursive script, and the dates are written in a more formal, printed style. The list is organized into two columns, with names on the left and dates on the right.

the 1980s, the 1990s, and the 2000s. The 1980s saw a rise in the number of people working in the service sector, while the 1990s saw a decline in the number of people working in the manufacturing sector. The 2000s saw a rise in the number of people working in the service sector, while the 1990s saw a decline in the number of people working in the manufacturing sector.

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